

### ABSTRACT OF THE DISCLOSURE

This invention includes a Clock Signal Detector and a Data Signal Detector. The Clock Signal Detector is designed to utilize a combination of a signal converter, rectifying-filtering circuit, and an inverter to prevent undetected signal interruption. With which, when a Clock signal interruption occurs that causes the signal converter and rectifying-filtering circuit unable to output clock and D.C. potential signals correspondingly, the inverter outputs a high potential signal as a warning for the detected abnormality in the clock signals. Through this warning, this signal detector can effectively prevent undetected interruptions during clock signal transmission through fiber optics or other wires, and, as a result, avoid time and resource wastages. The Data Signal Detector is designed to utilize a set of devices containing a signal converter, an integral charger, and an inverter. When the data ratio of positive potential signal in data signal transmission becomes overly high, the signal converter and integral charger correspondingly output a higher ratio data signal and integral potential signal. Once the high ratio is detected, the inverter outputs a low-potential signal to signify the abnormality in data signal. During data transmission, a short circuit or other factors may cause a series of data signal to be continuously transmitted, which, in turn, causes the laser to continuously fire. Through the above-described mechanism, the signal detector is able to prevent such continuous data transmission and laser emission, and, in turn, reduce the power attenuation and malfunction to occur to the laser emitter. In summary, the main function of the signal detector is to instantly detect interruptions in clock signal or abnormal transmission in data signal, and with an interruption control circuit, the detector reacts by intercepting the emitting action of the laser.